说 明 书 附 图

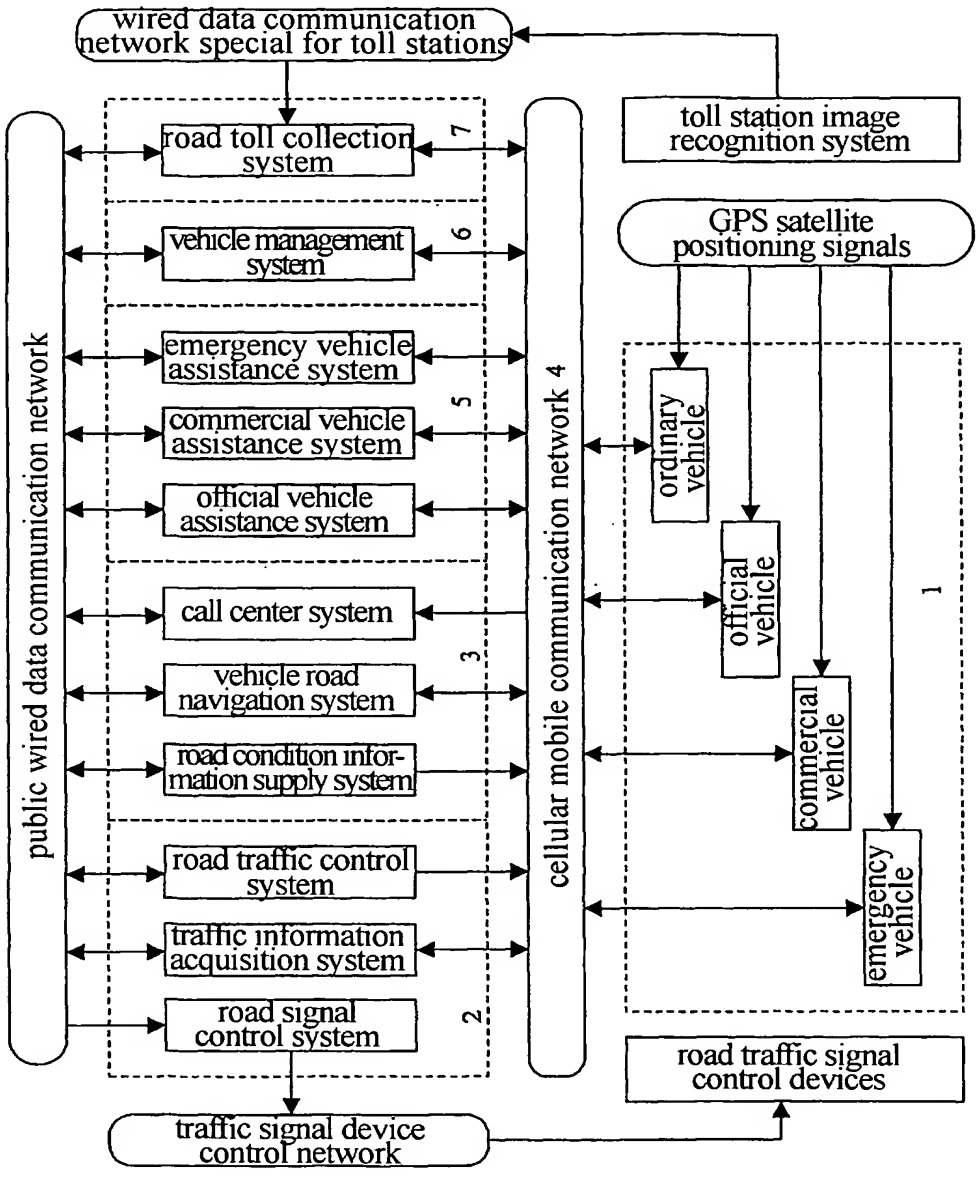
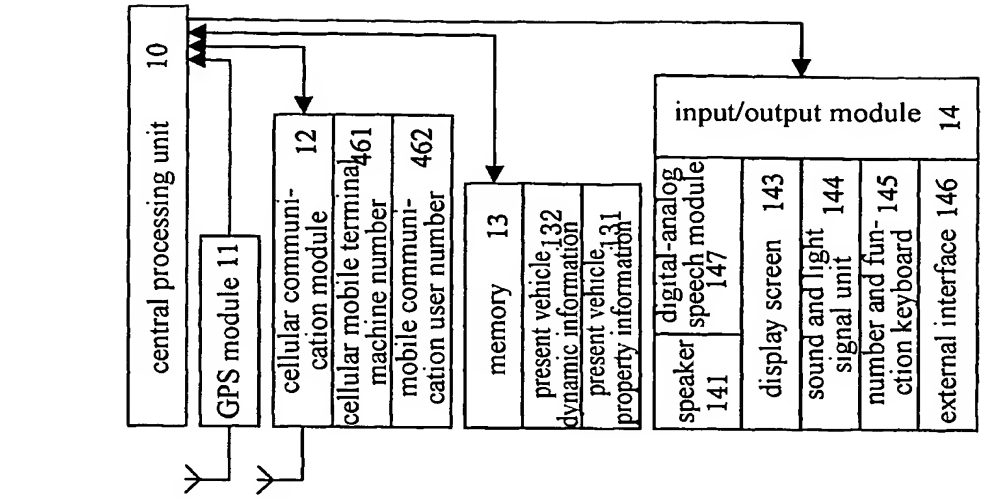
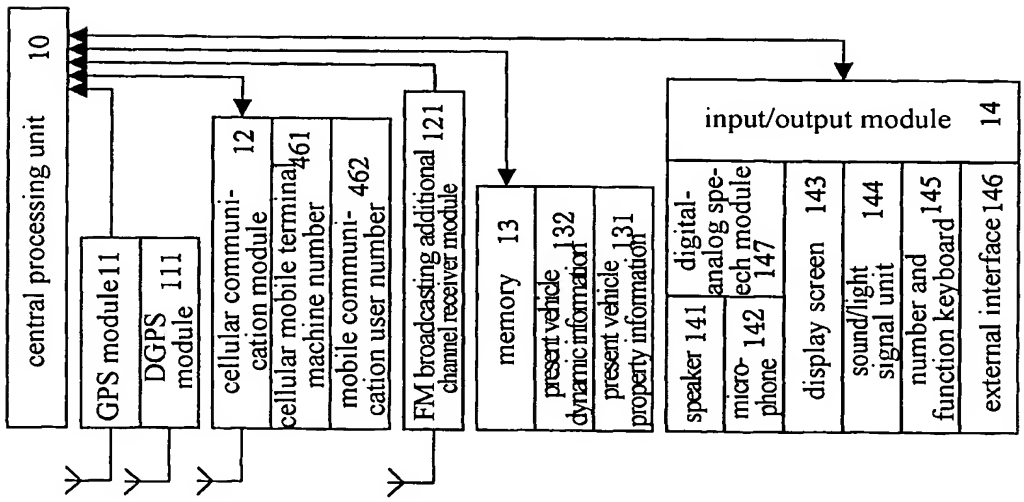

wired data communication network special for toll stations
road toll collection system
vehicle management system
emergency vehicle assistance system
commercial vehicle assistance system
official vehicle assistance system
call center system
vehicle road navigation system
road condition information supply system
road traffic control system
traffic information acquisition system
road signal control system
traffic signal device control network
public wired data communication network
cellular mobile communication network 4
toll station image recognition system
GPS satellite positioning signals
ordinary vehicle
official vehicle
commercial vehicle
emergency vehicle
road traffic signal control devices
7
6
5
3
2
1

Fig. 1


central processing unit 10
GPS module 11
cellular communi-cation module 12
cellular mobile terminal machine number 461
mobile communi-cation user number 462
memory 13
present vehicle dynamic information 132
present vehicle property information 131
input/output module 14
speaker 141
digital-analog speech module 147
display screen 143
sound and light signal unit 144
number and fun-ction keyboard 145
external interface 146

(b)


central processing unit 10
GPS module 11
DGPS module 111
cellular communi-cation module 12
cellular mobile terminal machine number 461
mobile communi-cation user number 462
FM broadcasting additional channel receiver module 121
memory 13
present vehicle dynamic information 132
present vehicle property information 131
input/output module 14
speaker 141
micro-phone 142
digital-analog speech module 147
display screen 143
sound/light signal unit 144
number and function keyboard 145
external interface 146

(a)

Fig. 2

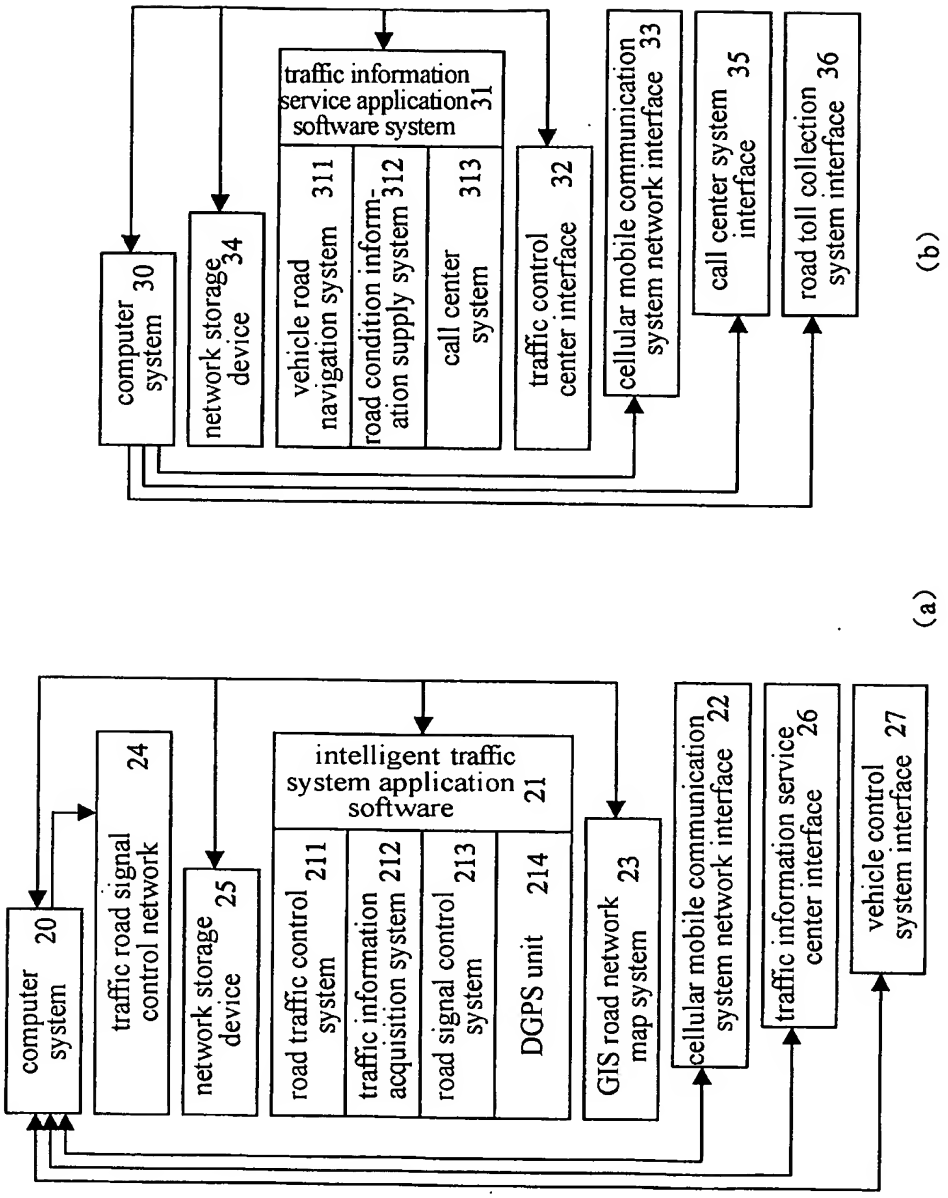

computer system 30
network storage device 34
traffic information service application software system 31
vehicle road navigation system 311
road condition information supply system 312
call center system 313
traffic control center interface 32
cellular mobile communication system network interface 33
call center system interface 35
road toll collection system interface 36
(b)
computer system 20
traffic road signal control network 24
network storage device 25
intelligent traffic system application software 21
road traffic control system 211
traffic information acquisition system 212
road signal control system 213
DGPS unit 214
GIS road network map system 23
cellular mobile communication system network interface 22
traffic information service center interface 26
vehicle control system interface 27
(a)

Fig. 3

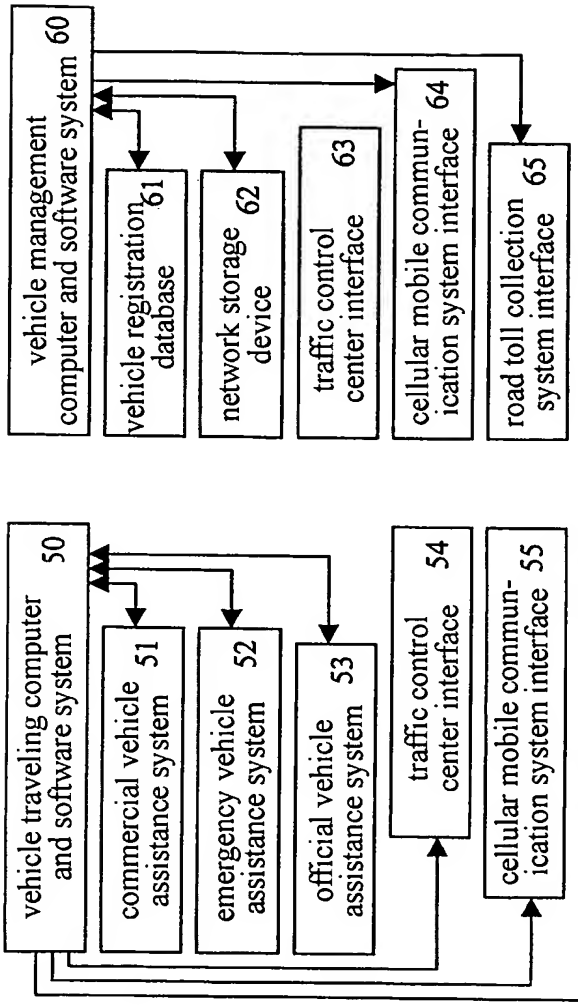

vehicle traveling computer and software system 50
commercial vehicle assistance system 51
emergency vehicle assistance system 52
official vehicle assistance system 53
traffic control center interface 54
cellular mobile communication system interface 55
road toll collection system interface 56
(a)
vehicle management computer and software system 60
vehicle registration database 61
network storage device 62
traffic control center interface 63
cellular mobile communication system interface 64
road toll collection system interface 65
(b)

Fig. 4

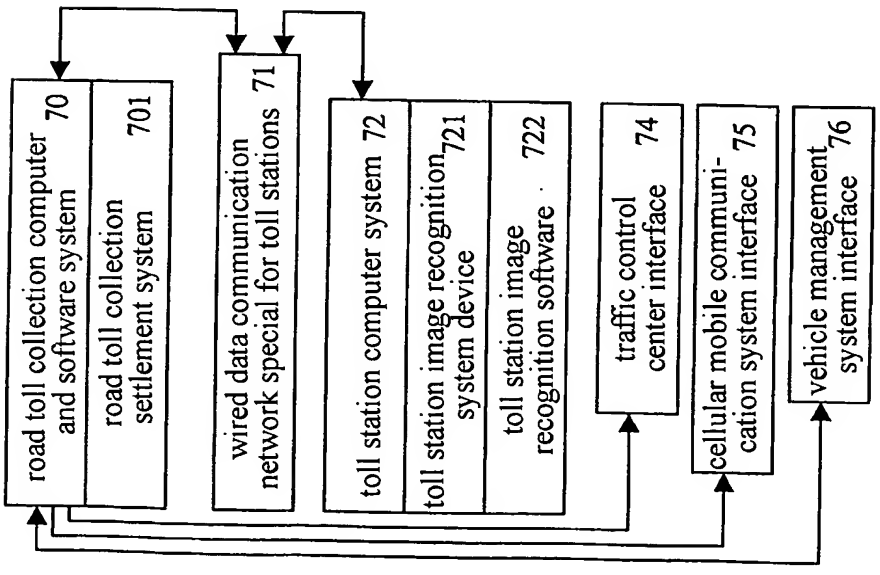

road toll collection computer and software system 70
road toll collection settlement system 701
wired data communication network special for toll stations 71
toll station computer system 72
toll station image recognition system device 721
toll station image recognition software 722
traffic control center interface 74
cellular mobile communication system interface 75
vehicle management system interface 76
(a)
913
912
911
910
916
915
914
909
908
907
906
905
V
904
903
902
901
(b)

Fig. 5

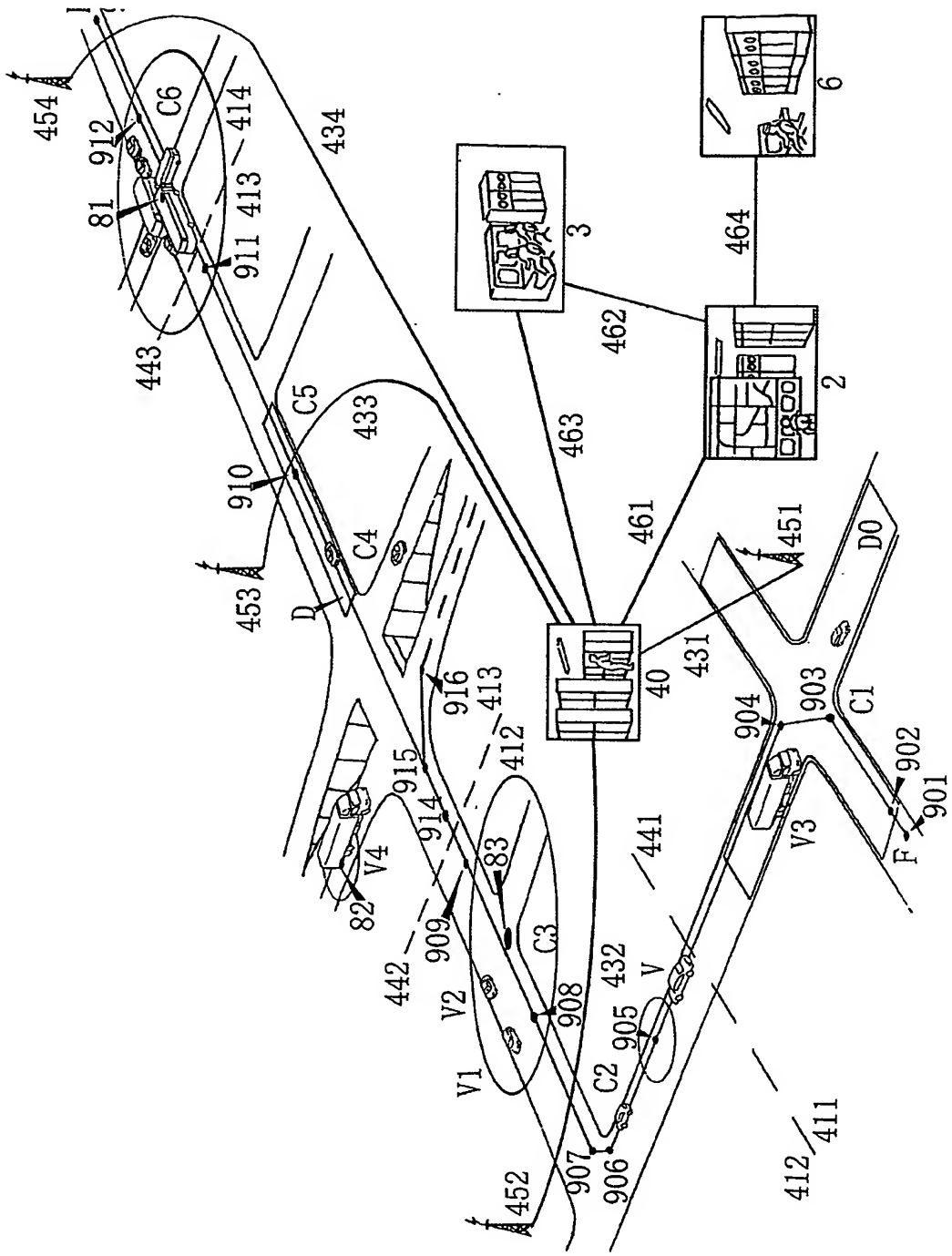

1
454
912
C6
414
434
81
413
911
443
C5
433
910
C4
453
D
916
413
915
412
914
83
82
V4
909
442
V2
C3
908
V1
C2
905
907
906
452
432
V
441
40
431
461
463
462
3
464
6
2
451
D0
904
903
C1
902
901
F
V3
411
412

Fig. 6

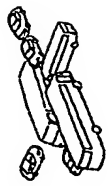


Fig. 7

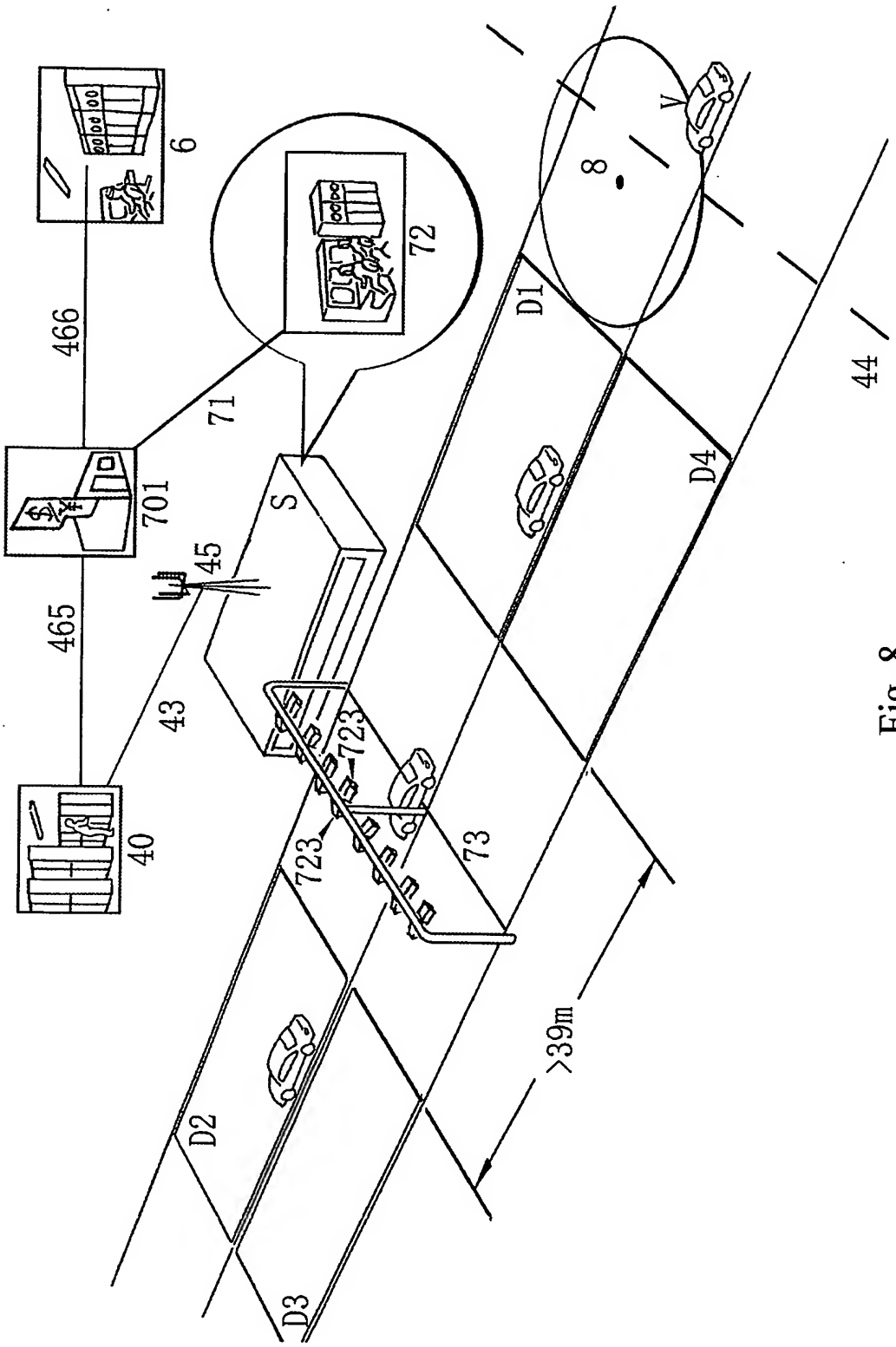


Fig. 8